

## **2015 ILRS Technical Workshop**

### **3.3 The feasibility of a Space Debris Laser Ranger at HartRAO**

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We propose the use of the Laser Ranger System, still under development at HartRAO, to range and keep track of space debris which are at range of 800 km to 1200 km. The availability of the 0.5 mJ laser of 532 nm wavelength using 10 ns pulse width is the key for space debris laser ranging at the HartRAO station. The simulated signal returns using the HartRAO station is compared to the preliminary space debris laser ranging systems and the observed results of the Shanghai SLR and Stromlo SLR stations. The participation of the HartRAO SLR station in space debris laser ranging will add to the current effort of tracking debris that are crowding our space. This technique produces a reliable and accurate catalogue for space debris and collision avoidance.